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FOOD FOR THE FARM FAMILY—II

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THE problem of right food has been shown in a previous article to be that of supplying the various elements which compose the body, in such amounts as are needed to prevent the wasting of any of the tissues. It is necessary to furnish these elements not only in proper amounts but in the form which is available to the human organism, that is as the food stuffs, proteids, fats, carbohydrates, salts and water.

In order to throw light upon the method of choosing the day's ration, it is necessary to explain more in detail the part that is played by the various food stuffs in the functions of the body.

If the food contained no proteid or too little proteid the living tissues would waste away for lack of the material needed to build and repair them, hence, whatever else the daily food may contain, a certain amount of proteid must be present to care for the wear and tear of living parts. If more proteid is eaten than suffices for the body's immediate needs it is gotten rid of as fast as possible, for the body does not store away proteid consumed in excess of its needs unless for some reason, as in the case of the growing child, the athlete, or the person convalescing from some wasting disease, new living tissue is being added. There is a growing belief that excessive amounts of proteid are very harmful to the body, overtaxing those organs concerned in getting rid of it

and producing products which may prove injurious. The problem is therefore to supply proteid sufficient for all demands but not greatly in excess of this. Proteids are useful sources of energy in the body, but as large amounts may be harmful, and since proteid is expensive, it is not practical nor wise to depend upon it as a main source of fuel.

The carbohydrates, the sugars and starches, and the fats are cheaper and better to use as fuels than the proteids and the main part of the energy back of the body's activities should be derived from these two food classes. They have, by themselves, no power of building up living tissue, and if the diet contains only foods rich in sugar or starch and fat, there is a plentiful supply of fuel for energy but a deficiency of building material and starvation finally results. If more carbohydrates or fats are eaten than the body requires at the time, they may be desposited in the form of fat and thus serve as a reserve food supply. If there is too little fuel in the day's food, that is, if the energy spent by the body has been greater than the heat value of the food the body burns first the reserve fat of the body and may later use the living tissue.

Salts are important not only because they are necessary constituents of the tissues, but also because they take an active part in the changes which convert the dead protein of the food into the living matter of the body

and give rise to the power to conceive and execute. If food were given from which all mineral matter had been extracted death would follow more quickly than by withholding all food.

Without water the body perishes sooner than without food, for although the human being is not an animal living in water, the outside skin is the only part in the body which does not suffer, when in a state of dryness. All the other membranes and tissues are kept constantly moist and are rapidly destroyed by drying. Food is carried by means of the blood to remote parts of the body and the waste products are removed from the tissues in the same way. Too little water in the dietary leads to a sluggish circulation;

the tissues are not flushed, and the waste products are not completely removed and so accumulate; the proper action of the intestine may also be interfered with, and the condition of the body becomes generally unsanitary. It is not merely the water which we drink which is useful, but also the water which forms a larger part of many fruits and vegetables.

Foods in their natural state are mixtures of food stuffs. Milk, for example, contains representatives of all five food classes, proteids, fats, carbohydrates, salts and water, while eggs and meat lack only carbohydrates, and fruits and vegetables lack only fat.

COMPOSITION OF SOME COMMON FOOD MATERIALS ADAPTED FROM OFFICE OF EXPERIMENT STATION, BULLETIN No. 28.

Food Material	Water P. ct.	Proteid P. ct.	Fat P. ct.	Carbo- hydrate P. ct.	Ash P. ct.	Calories per lb.
Milk	87.6	3.3	4.0	5.0	.7	325
Eggs, edible portion	73.7	13.4	10.5	—	1.0	720
Beef, hind quarter, medium fat	59.8	18.3	—	—	.9	1250
Walnuts, edible portion	2.4	18.4	—	13.0	1.7	3300
Rolled oats	7.7	16.7	—	66.2	2.1	1850
Beans, dried	10.4	18.1	—	65.9	4.1	1625
Cabbage	77.7	1.4	—	4.	.9	125
Potatoes	62.6	1.8	—	14.4	.8	310
Apples	63.3	.3	—	10.8	.3	220
Prunes	75.6	.7	—	17.4	.5	335

The well planned meal will not only contain a right mixture of the various food stuffs but will also be somewhat bulky in character, for the intestine was made to take care of a certain amount of coarse material and it does not function well if this is denied. In other words, the human being also needs "roughness" in food. While

the fruits and succulent vegetables have very little fuel value, few meals should be planned without the appearance of one or both, for they are of decided importance, both as a means of furnishing bulk, and because of certain of the salts which they contain in larger amounts than any of the other foods.

Foods rich in proteid	Foods rich in carbohydrates	Foods rich in fat
Whole milk. Skim milk. Buttermilk. Eggs Meat. Cheese. Legumes, peas, beans, etc. Nuts. Oatmeal.	All cereals and cereal foods. Starchy vegetables. Sweet fruits. Legumes. Some nuts.	Milk. Cream. Fat meats. Meat fats. Butter. Egg yolk. Nuts. Vegetable oils.

FOODS RICH IN SALTS.

Iron	Phosphorus	Potassium	Calcium
Dried beans. Dried peas. Whole wheat. Spinach. Raisins. Prunes. Green beans. Meat. Eggs.	Dried beans. Dried-peas. Whole wheat. Egg yolk. Beef. Milk.	Dried beans. Dried peas. Potatoes. Parsnips. Cabbage. Turnips. Prunes.	Milk. Dried peas. Dried beans. Celery. Cabbage. Parsnips.

Some very simple combinations will serve to show how few foods may be put together and yet answer all requirements.

- I. Bread, (better whole wheat bread)
Whole Milk.
Prunes.

Proteid 1. milk. 2. bread.
Fat. 1. milk. 2. bread.
Carbohydrates. 1. bread. 2. milk. 3. prunes.

Iron. 1. prunes. 2. whole wheat.

Calcium. 1. milk. 2. whole wheat.

Phosphorus. 1. milk. 2. whole wheat.

Magnesium and Potassium. 1. prunes. 2. milk. bread.

Bulk. 1. prunes. 2. whole wheat.

The food furnishing the main part of any of the food stuffs is mentioned first. The above menu as those which follow is in itself capable of meeting all the food needs of the body if a sufficient amount is consumed. It serves to show that while much variety may be "spicy" it is not essential.

- II. Cream of onion soup or any other cream soup made with milk.

Bread and butter.

Fruit.

- III. Eggs.

Bread and butter.

Fruit or some juicy vegetable.

- IV. Bread and cheese.

Fruit or some juicy vegetable.

- V. Baked beans.

Brown bread.

Apple sauce.

- VI. Oatmeal and thin cream, or Whole milk.

Fruit.

- VII. Nuts and fruit.

- VIII. Bread.

Meat.

Turnips.

While the food combinations given above theoretically answer all dietary requirements, they would not be practical in the majority of cases where the food habits of the individual would lead him to demand a greater variety, as appetite accustomed to stronger fare would pall if stimulated only with such simple mixtures. However, the simple menus show the way for planning more complex dietaries, for whether the meal is to consist of bread, milk and prunes or be extended to include a dozen other things, the principle is the same, to combine foods rich in proteid, rich in carbohydrate and fat, rich in salts, and bulky, watery foods. Thus, instead of making a cream soup the main part of the meal, a small portion can be served at the beginning of the meal.

Cream soup—Bread and butter.

Meat—Potatoes—cabbage.

Baked apples and cream.

It must be remembered, that with each increase in the number of foods served, the difficulty of making right combinations becomes greater. If a meal similar to the above is planned, where the soup served is rich in nutriment and the main part of the meal is also rich in nutriment, it will be very unwise to serve a heavy dessert. Apples in this case, increase the bulk of the meal, give desired variety and

taste but do not materially increase the amount of proteid which is already sufficient.

Meat, Potatoes, Macaroni, Bread and Butter.

Bread Pudding.

The above meal is a poorly planned one, not because it lacks proteid, fat or carbohydrate, but because there is a complete lack of juicy foods. It is never wise to serve two starchy vegetables at one meal. If macaroni, rice, or sweet potatoes are used they should take the place of white potatoes and not be substituted for the succulent vegetables as cabbage, turnips, green peas, beans, etc. If the main part of the meal is heavy the dessert should be light and if the main part of the meal is light the dessert should be heavy.

Another important factor in planning a meal is to consider the occupation of those who are to eat it. We have heard so much argument concerning pie, that it makes a striking illustration of this point. For the individual leading an inactive, sedentary life, pie may result in a deranged digestion for it is a concentrated food, but it may be an excellent food for the man actively engaged in some out of door occupation. The trouble is that often with a change of conditions we do not change our dietary habits. This is particularly true of the farmer. He has been accustomed to heavy out of door work and has needed large amounts of food to supply the energy expended. When he lessens his work and still consumes the same kinds of food in the same old amounts, disorders are bound to result.

It is not well to pass this subject without some discussion of the relative merits of the various foods as a source of the food stuffs. The question often arises as to the advisability of using meat as the main source of the proteid supplied in the dietary. There is a great deal of misconception regarding this point and the common belief among a large number of people is that "strength" is dependent upon meat consumption. Now, strength is only another word for energy and

energy is not supplied by the proteids but by the carbohydrates and fats. If we increase the amount of food in the diet of a man doing much work we choose foods rich in sugar or starch or fat and not those rich in proteid. The proteid from milk and eggs, cereals, legumes and nuts serve the same purpose (that of building tissue and repairing waste) as the proteid in meat. In meat there are certain extractives which give it a high flavor and more stimulating action, but whether or not these are beneficial is debatable. Certainly, the proteid for the growing child should be mainly in the form of milk and eggs for these proteids are more readily built up into the body's tissue. Sugar is best served in the form of sweet fruits or combined in desserts. The main reason for this is, that sugar is a food stuff, extracted from the foods in which it occurs naturally and is therefore not combined with any of the salts which it is so desirable to include in the dietary. Let us then lay down this rule, not to exclude meat, but to use it only once a day; to make more free use of milk and eggs, and less free use of meat, to make more free use of fruits and vegetables and less free use of uncombined sugar. On the farm of all places in the world there is greater possibility of making a good choice of food for a wealth of good foods is always there,—milk, eggs, butter, cream, fruit and fresh vegetables.

Finally, how much food should be eaten and what proportion of the daily food should be proteid? In facing this question we are in a pioneer country where dangers beset us either side, and so a middle course seems best. The amount of food consumed in a given time should be capable of yielding energy equivalent to that spent by the body during the same time.

If the day's work is hard muscular effort requiring a large output of energy, the amount of food should be proportionately greater than when the day's work is light. In other words, the amount of food must vary directly

with bodily activity. Food values are determined in a way similar to that of determining the heat value of fuels. A weighed quantity one gram (.0022 lb.) is burned and the amount of heat it is capable of yielding is determined by the number of degrees rise in temperature it causes in one kilogram (2.2 lbs.) of water. In order to express this in a simple way it has been decided to call each degree of heat a heat unit or calorie. In other words, a calorie is the amount of heat required to raise one kilogram (2.2 lbs.) of water one degree Centigrade. As an example, if one gram of fat is burned, one kilogram of water is raised 9.3 degrees C., and we say that each gram of fat is therefore capable of yielding 9.3 calories of heat. The actual calorie value of the various food stuffs to the body is as follows:

1 gram (.0022 lb.) of proteid will yield 4 calories.

1 lb. of proteid yields 1812 calories.

1 gram (.0022 lb.) of fat will yield 9.1 calories.

1 lb. fat yields 4122.3 calories.

1 gram (.0022 lb.) of carbohydrate will yield 4 calories.

1 lb. carbohydrate yields 1812 calories.

For the adult individual doing light muscular work the following outline may serve as a guide:

For each pound of body weight the average man at light muscular exercise will require about .0011 to .0013 lb. proteid. .0013 lb. fat. .0045 to .005 lb. of carbohydrate, 16-17 calories. Thus :

AVERAGE AMOUNT OF FOOD STUFFS REQUIRED FOR LIGHT MUSCULAR EFFORT.

Weight of man	Proteid	Fat	Carbohydrate	Calories
130 lbs.	.17 lbs.	.171 lbs.	.585 lbs.	2080 to 2200
150 lbs.	.195 lbs.	.195 lbs.	.675 lbs.	2400 to 2600
170 lbs.	.22 lbs.	.22 lbs.	.765 lbs.	2720 to 2900

It must not be forgotten in using the above figures that they only approximate real conditions. It may be that for one individual the amounts given would be too little, for another, too much.

As the muscular exercise increases the calories furnished by the food should increase. For example, the man weighing 130 pounds requires 2000 to 2200 for light muscular exercise, but if the amount of work is increased the calories must be proportionately increased and may reach 3000 to 4000 or even 5000 in number, according to the nature and severity of the work.

A great deal remains yet to be done

in deciding dietary standards, but in the meanwhile sufficient progress has been made to enable the individual to feed himself with at least partial wisdom. Information on this subject is within the reach of all for the Government Experiment Station at Washington and the agricultural colleges in various parts of the country are constantly sending out new and valuable literature concerning foods. A knowledge of foods and food values is of greatest importance from the standpoint of both economics and hygiene, for right food is one of the main factors which are at work in determining the prosperity and health of the race.

A NIGHT VISIT TO AN EGYPTIAN STABLE

By Anna Botsford Comstock

With Snapshots by J. H. Comstock



"MUD VILLAGES AND THEIR GROVES OF DATE PALMS."

IT was the middle of January and all day our pretty steamer, the *Queen Hatsoo*, had steamed against the swift current of the Nile, which checked her speed sufficiently to give us plenty of time to gaze at the high, flat-topped mountains, with steep sides wind-carved into flying buttresses which flank the great Egyptian river; and here and there were openings in this mountain wall which gave us glimpses of the vast desert beyond, beset with more flat-topped mountains. The Nile landscape has always for a background the desert and these mountains which take on heavenly tints of rose and purple in the morning and evening lights; and for the foreground there is ever the strip of vivid green of the irrigated crops on the river rim dotted with mud villages and their groves of date palms; and in the immediate foreground always the native sail boats with their tall, curved sails and high prows like great, grace-

ful water birds flitting up and down the opalescent waters.

Since these native boats carry no light, it is necessary for the steamers to tie up at night lest there be collision and consequent bad feeling, which would prove a dangerous asset for a steamship company; and this night we tied up at Shiekh Fadl, which is a village of only 1800 inhabitants, but is made important now because in its midst is a great cane-sugar factory. Times have changed, for once the site of this very town was the ancient city of Cynopolis where dogs were regarded as sacred and many dog mummies have been unearthed here.

After supper we were invited to visit the sugar factory by Mr. Ragheb Choukry, the secretary of the concern, who made a ceremonious call on our ship's officers and through them extended the invitation. Mr. Choukry proved to be a handsome, vivacious, courteous Mohammedan with pleasing

manners, European dress, and a fair command of his own English but with small command of ours. He led us up a steep bank and along the village street past the front of a long arcade filled with native bazaars and ending at the gates of the sugar factory, which were locked, and were only swung open after explanation on the part of our host. Most of the work rooms of the factory were on the first floor, and we studied the various processes of sugar making through the open windows and doors. We first saw the cane ground and then pressed; the work was done by hordes of natives, most of them quite dark complexioned, and many of them negroes. Some of them were less than half clad and some not clad at all, for the heat of the factory was intense. As we watched the work with outward interest we inwardly hoped that something was done to the sugar in the refinery to extract the dirt else we must needs forever abjure sweetness in our food. The men were working in six hour shifts and the mills were thus kept running night and day. A man received for his twelve hours work the sum of twenty-five cents or an English shilling, which our host evidently regarded as a truly magnificent sum. We were unable to more than give a casual glance at the refinery as it was not then running, but we examined with interest the little railroad with its truck cars which brought in the cane and carried away the bagasse.

After we had seen all that was open to inspection we were led out through the gates, which again were not unlocked until after explanation. Then Mr. Choukry insisted on taking us to an empty-looking tavern where he seated us at a table and promptly ordering a much needed clean tablecloth treated us to small glasses of Cognac; and those of us who had "principles" found it more expedient to stealthily empty the contents of our tiny glasses on the sanded floor than to explain to our host why we could not drink. Our appreciation of his kindness and the Cognac opened Mr.

Choukry's heart still more to us and he took us to call on Madam Choukry. We entered his home through an alley that led into a courtyard and thence into a room with high walls, which were decorated with modern hunting equipment and some rather primitive Italian pictures. A table covered with a clean cloth occupied the middle of the room, a modern sideboard was at one end and a large sofa covered with dilapidated red plush was at the other. Madam Choukry proved to be a good looking Syrian woman and was Mr. Choukry's only wife, as he explained that he did not believe in polygamy. As she spoke no English she smiled her welcome, and ordered a big negro servant to bring us Cognac and cigarettes. Then the eldest son was introduced, a bright-eyed, dark-skinned, little fellow with very nice manners, and then as a special favor the Madam brought in her arms a poor sick, little girl who seemed to be naught but a wraith, with great, dark, pleading eyes and Mr. Choukry explained to us with sad face that the illness of this little one was their great sorrow. After an interesting half-hour we bade a lengthy and ceremonious goodbye to Madam Choukry and were taken out through the town to visit the stables belonging to the factory.

We walked for some distance at the side of a high, stone wall and only stopped when we came to where a sentry in flowing, white robe and white turban with a huge gun on his shoulder was pacing up and down before a strong iron gate. Mr. Choukry rapped on this gate enthusiastically and a grated peep-hole was opened, through which a parley was held with some unseen person behind, with the final result of throwing wide the gate and admitting us to a courtyard. A stone house with wide, open doors disclosing large rooms was at our right. From this house came a man of magnificent physique with handsome, melancholy face adorned with long, drooping mustache and surmounted by a silken turban. Like the others, he wore a flowing robe and was introduced to us



A NATIVE BOAT LOADED WITH STRAW.
(Note the costume of the sailor.)

as the High Functionary of the Stables, and henceforth was known to us as the H. F. of S. He led us through a succession of walled courts, which seemed grim and prison-like under the brilliant light of the room. At length we reached some stables with stone walls and partitions, which would have done credit to a fortress. There was one, ten-candle electric light for each stable which made the center Rembrandtish and the corners mysterious.

First we visited the white Arabian horses, ten of them, all thoroughbred and very beautiful; they looked at us out of proud, sleepy eyes as if haughtily wondering what nightmares had disturbed their dreams. Next we saw some donkeys of famous breed, and although we were not very conversant with donkey races, yet we were able to see that these were truly aristocrats. From the donkey stable we went to that of the oxen and bulls, splendid creatures which made us long for more light so that we might properly appreciate them. One of the bulls was the largest we had ever

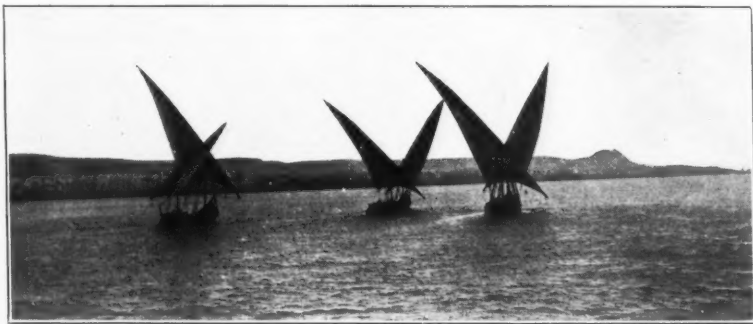
seen, and had cost \$400 in silver, as our guide assured us with much pride. Once when the cars carrying sugar cane ran off the track and the little engine could not pull them back, this huge creature was hitched to the errant cars and pulled them up and on the track with no special effort and with absolute unconcern. We then visited the cows, which we found to be large and beautiful animals, quite as large as Holsteins but colored like Jerseys; they were not fastened by stanchions but by chains around the neck. We failed to get from Mr. Choukry the names of any of the breeds of cattle; I do not think he knew and the H. F. of S., though evidently very proud of his cattle, spoke no English. He showed us with a smile in one stable a young creamy-yellow calf, which looked at us long and doubtfully and then distrusting our appearance ran bleating to its mother to be comforted by fond licks and soft, motherly mooring. "See, see" cried the sympathetic and impressionable Mr. Choukry, "ever the mother, ever the mother."

Meanwhile certain black heaps on the floor and on a long seat or shelf in an embrasure at the end of the barn, heaps that looked like horse blankets casually dropped, began resolving themselves into gowned and turbaned beings. Evidently the stable force slept around just anywhere and were not nearly so comfortably bedded as were the cattle.

After seeing and admiring all the animals we wandered back through the mysterious highwalled enclosure to the door. The H. F. of S. invited us, and then persuaded us through Mr. Choukry's English, to enter his house and have coffee with him, but we were obliged to refuse as it was growing late and we feared more Cognac. So we bade him an extended and stately farewell and backed out of his presence, as is becoming those taking leave of high functionaries; the iron gates clanged to behind us, and the white robed sentry continued to pace up and down.

Soon we passed the quarters where the laborers of the sugar factory lived

and slept; kennels we thought was the proper word to apply to these buildings, which were small, dark, low and dirty, the rooms into which we glanced seeming merely large enough to accommodate the bed. We could not help contrasting the housing of these human beings with the high, airy, fortress-walled stables given to the animals. We emerged from this distressing alley into a magnificent avenue of Lebakh trees; the Lebakh is something like our locust and flourishes in arid places, its pods and fruit being a valuable fodder. We soon reached a point where another equally grand avenue crossed the one we were following at right angles and at the intersection the trees were made to form an ornamental arch, the entrance for the Khedive when he graces Sheikh Fadl with his presence. This sacred archway, however, was fenced off and none but royalty might pass under it, so we drifted back to the boat where we took a cordial, nay, almost affectionate leave of our hospitable host, the polite, cordial and child-like Mr. Choukry.



THE NINTH ANNUAL AGRICULTURAL BANQUET

THE need for some larger University building was again emphasized on the evening of February twentieth, when the even four hundred banqueters of the College of Agriculture taxed the Armory to its capacity. Another success was thereby

added to the list of college functions and once more was the true spirit of the College diffused, absorbed and radiated from every heart and mind present. The committee under the chairmanship of E. G. McCloskey, '09, did its work well and every phase of

the gathering worked smoothly and satisfactorily in the extreme. If the Short Course, yells were less numerous and less vociferous than last year, we can readily believe that nevertheless, there was no lack of spirit in those students, as in every other person there.

The toastmaster was R. C. Lawry, '09, who is well known to many of us, and who was well fitted for his office. His wealth of clever and appropriate jokes and quaint introductions, easily outweighed the difficulty he experienced in making his voice reach to the limits of the hall, and all in all his task was accomplished most gracefully.

K. C. Livermore, '09, who represented the regular students, was recommended as having come from Boston with neither "spectacles nor a bulging forehead as might have been expected," and further that his varied experiences had well fitted him to represent the long course students. His toast was unique, original and very cleverly developed, being a confession of "A Senior's Love." It was back in my freshman year when I first saw *her*," he began. "In a group of five or six others she alone impressed me. Charmed by her lofty ambitions and sturdy courage, I saw in her future, promise of a life rich in good influences. How she has changed in these four years" and so on, apostrophising "his love" for her wisdom, her unselfishness, her love of Nature and scientific investigation, her energy, her democracy, her powers of good and her altruistic friendship for the farmers. "I am not disheartened because she loves each of her many suitors equally," he concluded. "Rather am I stimulated to greater love of her and more determinedly do I strive for the heights towards which she leads. All that I am or ever may be I owe to her, to whom I declare my love tonight. Friends, my toast is to her whom we all love "Our College."

Dr. H. J. Webber, the next speaker, is we were told one of those "forms that easily adapt itself to new conditions of soil and climate." In responding on behalf of the Faculty, he supposed that he had been asked to

do so because, perhaps, the faculty needed some evolving. But on the whole, he thought them pretty good. His deeper message, however, was for a greater appreciation of further and more careful specialization. One of the few things he felt he might criticize in the College was the lack of sufficient emphasis towards keen, scientific specialization. The idea of sending men back to the farm is in itself good, but, he asserted, a man with the divine spirit and power to teach, can do more good for agriculture as a science than any other. To explain why few students take up teaching as a profession, he gave the fact that a teacher does not become rich, though, he added no man can have as good a time or receive such satisfaction as he who has the divine spirit for teaching. The very fact that specialization makes a man unable to delve into many subjects, causes the failure of scientists, as a rule, to be good business men. Thus, he urged, there should be a greater community of interest between the scientist and the business man each recognizing the place and value of the other.

An unexpectedly pleasing feature was then introduced namely, the presentation by Dean Bailey of the Morrison Trophy Cups to the Short-Course winners in Debate and Basketball. In a brief speech urging for continued efforts along debating lines, the Dean tendered the handsome Debate trophy to the Dairy class, which had beaten the Poultrymen in the final contest. Then with a reference to the result of team work and the necessity for it throughout life, he presented the Basketball cup to the victorious class in General Agriculture.

Following these awards, R. P. McPherson, General Agriculture, presented the short-course point of view in a clear, well delivered speech. The men had come to Cornell, he explained expecting to take little interest in anything but their special work, to return to their farms with some new technical knowledge and perhaps put some of it into practice. But, he said, they soon found out how they were a

part of the College; how much was expected of them here as well as in after life when they should have to stand representing and worthy of the College. They have felt responsibility and they have come to realize that we of Agriculture are the only class of men to whom are entrusted the life and care of living things, not metals, machines and inorganic substances, but plants and animals that live and breed, and grow. Should not this realization he asked, inspire us to ever better doing and living, to a remembrance of all the greater things that we are striving for, and to an endeavor to be leaders in all that is good and true and useful.

J. D. Van Wagener, '91, as one of "The Old Boys" was characterized as one of the two men who had received an M. S. A. and then gone back on the farm, as an enthusiastic and tireless Institute worker and as an "edition de luxe" of the real farmer. He spoke of the early days of the College "not her infancy, but that time when she was just putting up her back hair and beginning to go out with the boys." He touched on the nature of the earlier agricultural banquets, with which, in contrast to the banquets of today, he felt small and insignificant. Almost, he said, he hesitated to represent the College, so much smaller was it in his day, and so much fewer the opportunities. But one great source of pride, he maintained, would ever remain with him, and make him glad that he was "one of Roberts boys." And then in a sincere tribute to Professor Roberts, to his character and his heroic, unselfish work, he sent a greeting across the plains to him, whom, he felt, could justly glory in the fulfillment of his greatest hopes and endeavors—the present College of Agriculture.

And then came Dean Bailey, with a new message to his "fellow students, and brother shorthorns." He had been impressed, he said, by Dr. Webbers, words concerning specialization and investigation, as also he was impressed with the value, to every man and woman of a scientific mind. He

spoke of the College and for what it should stand, that it means new thoughts and advanced, broadening ideas. People who think little, take the things that are so, as the best, whereas the existing state of things is often most in need of change. We grow up in the bounds of certain customs, and come to feel that certain things are right, until at last some gradual growth of mind brings new truth into our sluggish beliefs. Some men, he said, have acquired much wealth and power and are looked upon as leaders. But there are, nevertheless, rights belonging to the individual, to all people which must be recognized. On this recognition are based many of President Roosevelt's policies for the people rather than for the few, and by no institution is it more fully lived up to than by the colleges of agriculture. They work for the people on the land, not for power.

Returning to the value of a scientific mind, the Dean said he realized that many of the students had changed their preconceived notions since coming to Cornell and that he wished they could have changed *all* the earlier mistaken opinions of their youth, for the later more correct ones. Few ideas, he said, come save from experience and prolonged thought, hence youthful opinions can easily be misleading. He declared the greatest integrity to be honesty with ones own opinions, and that this condition could come only from founding ideas on certain, sound premises, developing them logically and then standing fast. In Abraham Lincoln could such integrity and steadfastness be seen. How many men, he said, disbelieve even what they see, in the face of preconceived ideas. But a scientific mind will save us. It is willing to believe the truth as it appears, and so becomes continually revived and amplified, as in the light of modern discovery, every scientific book should be revised frequently.

Man must be open to new convictions. Many students have received knowledge that perhaps, conflicts, or seems to, with their religion. The

remedy, said the speaker, is to accept the *truth*, that which is actually seen and demonstrated, and to forever remember that behind all the universe, and ruling it, is God; that naught that man can do will change the destiny of things. Growing to keep pace with our increasing knowledge, let us change if need be our forms of dogma, but through all, the fundamental truth stands. Through truth and

through science will come not doubts and instability, but knowledge, insight, and thus shall we come into close relationship with all creation."

With a closing word from the toastmaster, a final cheer, and the Evening Song, the banquet was over and another step along the road of progress, development and unification in agriculture and the College had been taken.

THE CORNELL WAY

SMITHVILLE FLATS, N. Y.,
Feb. 10, 1909.

CORNELL UNIVERSITY,
Poultry Department,
Ithaca, N. Y.

Dear Sirs:—

In the CORNELL COUNTRYMAN, some time ago,

I saw your Ad. of the "Cocks that Crow,"

And I said to myself, to make some gain,

I'll get a cock of this wonderful strain,
For in Poultry craft, as in other breed-

ing,
The record made is not all in the feed-

II

For some years past I've kept the count

Of the number of eggs; the cost and amount

Of feed to produce a dozen eggs,
From the little Leghorn with yellow legs,

And I'm forced to conclude, that to make things go,

I must have a "Cockerel with the Cornell Crow."

III

Now to some it might seem passing strange,

That in poultry breeding, one must arrange

For a change of blood, to give us vigor

And keep constitution to the proper figure,

But this, Rice says, we all must do,

And Rogers and Krum and Miss Nixon, too.

IV

So then, dear Sirs, with your ears to the ground

All open and tuned for the proper sound,

Approach the quarters of chanticleer

And select a bird, in conscience clear,

A bird of parts, and vim and go,

A "Cornell Cockerel with the Cornell Crow."

V

To me at Greene you may consign

This bird with voice so true and fine,
And on the coop, mark the considera-

tion
That will be charged, laid down at our

station,

And I will remit, in New York ex-

change,

The price in justice you arrange.

Sincerely yours,

CHAS. H. ROYCE,
(Cornell, '91, B.S.A.)

A PLEA FOR HEAVIER HORSES

By M. W. Harper

Assistant Professor of Animal Husbandry, Cornell University

IN America we have learned to substitute brute for human energy to a greater extent than in any other country. The statistics show that the horse population of the United States is one-fourth that of the human population, or one horse for every four inhabitants. This is two and one-half times as great as the proportion of horses to men in France; three times greater than in Germany and six times greater than in England. We have wasted our natural resources, such as lumber, coal and soil fertility but we have used human energy more economically than has ever been used before us. The older nations are saving everything but human time. As a nation, we are extremely saving of time, but wasteful of everything else.

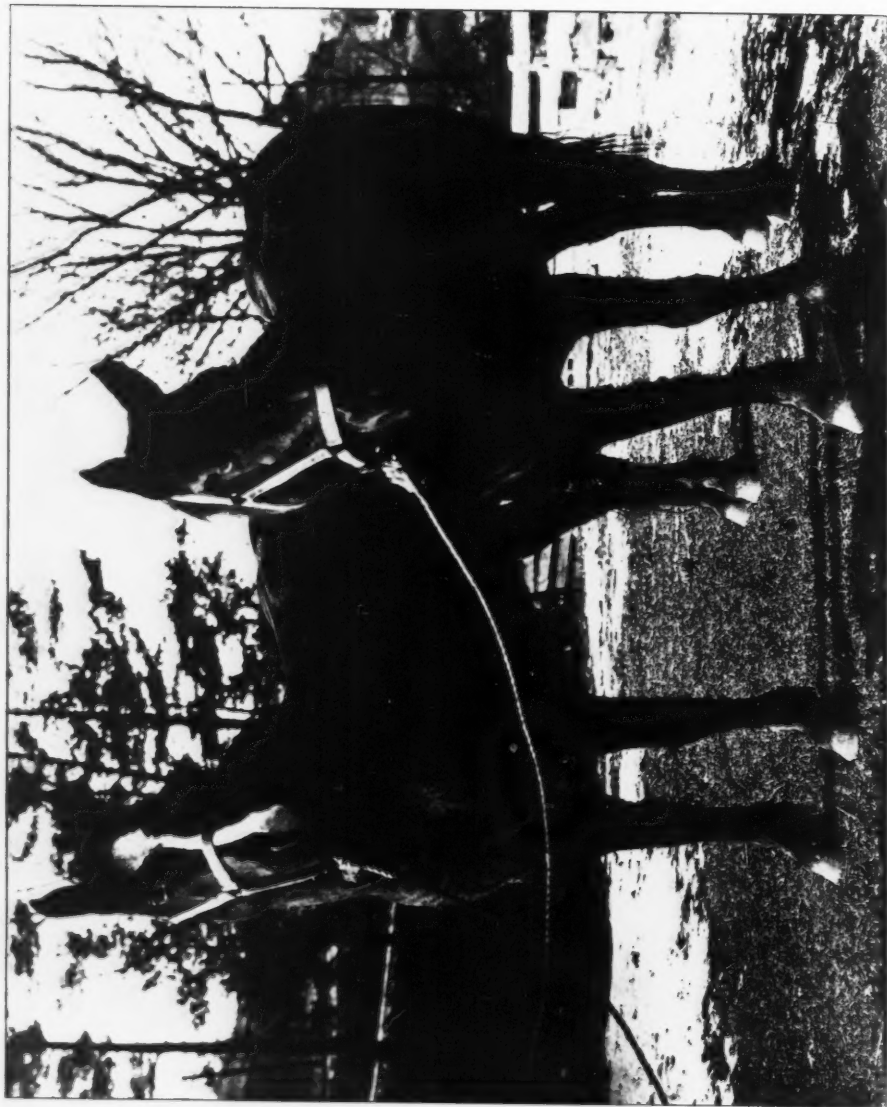
Those who developed the agriculture of the United States were very early taught that human muscle was the dearest material from which to secure energy, even if the person was a slave. A horse properly directed, is equal in productive energy to ten men, and it will cost about half as much to keep him as that of one man. According to these figures, a horse intelligently handled may be made to cheapen labor twenty fold over the old hand method. Here lies the secret of success in America. Human muscle, however cheap, can never successfully compete with improved implements operated by well bred horses, adapted to their work, and directed by intelligent workmen.

Since the horse seems to be such an economical factor in American production and progress it behooves Americans to acquaint themselves with the conditions whereby the horse may do his work most efficiently. What are the conditions that will enable us to substitute horse power for human effort to the greatest extent? In America the farmer is not as a rule contented to direct the energies of but one horse at a time.

He usually harnesses two, sometimes three or four, and occasionally six and even more, to a single implement or machine. On the open areas in the west where the fields are often a mile long, one frequently sees two sixteen inch plows mounted on wheels and drawn by four large horses plowing as much as six and one-half acres in a single day, more than a hundred laborers could do in a day of the severest toil. Perhaps the most striking illustration of the economy of horse over man power may be seen in the great wheat fields of California where fourteen teams, twenty-eight horses or even more, are attached to a combined machine which cuts, threshes, cleans and sacks one thousand or more bushels of wheat in a single day. One man drives the horses and three others tend the machine and sew up the bags of grain. Four men and fourteen teams reaping and threshing one thousand or more bushels of grain in a single day. It would take at least sixty men one day to accomplish this with the cradle and flail.

So much for the conditions under which we can use horse power most economically. The next most important consideration for the farmer to acquaint himself with is the sort of animal that is the most economical for him to use. It would seem foolish to rear horses which would only increase man's productive powers five times when a more intelligent effort may have produced one which would increase them ten times. Can we produce a horse that will be more efficient, require less human effort than those we have at present? This is the most important question in the rural communities of the eastern part of America today.

When we study the type of horse used in the west where large machinery is employed and the type used in the east where smaller machinery is employed, we note quite a difference



PERA HERON FILLIES, 2000 POUNDS. A DESIRABLE TYPE OF FARM BROOD MARE.

in the type and size of the horse. East of Ohio there are few draft horses in the rural communities. They seem to be mostly of trotting blood and occasionally one of Morgan type. It would be interesting to know if it were possible, the influences which have led the eastern farmer to stick largely to the lighter type of horse. It would be interesting to know whether this was due to the fact that the lighter horses became established in the east before the introduction of the draft horse into the United States, which occurred about fifty years ago, or whether the environment is more suited for the smaller horse. The breeding of draft horses began in central Ohio and has gradually moved westward until the whole of the central west has become permeated with horses of draft breeding. During the half century that has elapsed the draft horse has appeared unable to make his way eastward to any considerable extent except to be consumed in the large cities. Whatever may be the reason, one thing seems certain that the phenomenal development of the central west has been in a large measure related to the application of more efficient horse power in the production and the marketing of farm crops. The draft horse has been a factor in this development. We shall see that the efficiency of the horse as a motive power has been raised to such an extent as to reduce the number of men as well as the number of horses required to do a given amount of work. Thus giving a larger production per unit of human effort and per acre of land, which makes labor more valuable and increases the value of the land.

The relation between land values and the number of heavy horses kept is close and intimate. With few exceptions profits per acre rise and fall with the number and value of heavy horses kept. If we study the conditions in detail we shall find in the areas of high priced land heavier and fewer implements as well as heavier and fewer horses per acre. The fourteen and sixteen inch plow is common,

the two-row cultivator, corn binders, the eleven-hoed and larger grain drills, seven and eight foot binders, the hay loader and in fact every contrivance to substitute horse power for human effort on the largest possible scale. When we study the conditions in the regions of cheap farm land, we find the opposite conditions. Small horses and more tools per acre. Ten and twelve inch plows are common, corn tilled with the one row cultivator or the double shovel, seven and nine-hoed grain drills, five and six foot binders and mowers, in fact everything on a smaller scale requiring more human effort per acre.

It is true that the conditions are not comparable in every respect. Oftentimes the texture of the soil is different, which may modify conditions somewhat. Oftentimes the topography of the land is different, which may have some influence. Again the farms are smaller and poorly laid out. This, however, is an objection that is met with in the areas of high priced land. There are, however, vast areas of land in the cheap land region that could be worked in much the same way as the land in the regions of higher land values.

The claim is often made that the reason heavy horses are quite popular in certain sections is because the land is easily tilled, labor scarce, and that it is necessary to employ the large horses. Again the claim is often made that it was the high land value that attracted heavy horses and not the heavy horse that increased the value of the land. The facts in the case are that the areas of high priced land and heavy horses are closely allied and that the heavy horse decreases the cost of production.

Aside from the fact that the heavy horse is the more economical because he saves human effort more efficiently than the lighter one, there are other points in his favor. In the areas of high-priced land, on well regulated farms, more horses are raised than are consumed there, and the heavy horse is perhaps the most profitable for the

farmer to produce. The heavy horse can be produced with less effort and less risk to mare and foal. The brood mare should be worked up to the time of foaling; it is better for her. The heavy mare is more phlegmatic, not so apt to injure herself or the colt while in foal, as is the lighter and higher strung mare. Again when the colts are young, they are not so active, nor so apt to hurt themselves as are the, lighter and higher strung animals. And even if they should blemish themselves, while very objectionable, yet it is not so much so as it would be with the lighter horses. Draft colts can be made to earn their own keep from the time they are two years old, when they can be put to light work. They are not so hard to train as the lighter ones, as they are more phlegmatic and take to their work better. If one is raising coach or saddle horses it may cost more to properly educate them than the entire cost of the draft colt.

The heavier horses are always in good demand on the market. They are the least affected by business depressions, by fads and fancies. If one

is breeding coach or saddle horses, they are usually considered pleasure animals and the first to be effected by business depressions. Again, the draft horse will be the least effected by the motor car. Whatever else may be said, the motor car has come to stay and as there are about seventy thousand automobile licenses in New York state alone, we can hardly gainsay that it has effected the number of pleasure horses to some extent.

If it is true, as seems to be the case, that the larger the horse the larger the farm machinery, then it is true that more work will be accomplished per man and hence less human effort will be expended per acre. This will decrease the cost of production and increase the net returns per acre, therefore the value of the land is increased. Furthermore, if it is true that the draft horse is the more economically raised, the least effected by business depressions and worth the most when ready for market, it would seem well worth while to give him greater recognition in the east than has hitherto been accorded him.

THE WOODLANDS

By John Sill Gallager, Sp.

*When drowsily the woodlands wake
As the stretches of night softly scatter
and break,
Retreating before the shafts of day,
There slowly we roam the fields away.*

*And ever through mists of the pine's
sleepy smell,
And mirages of scarlet from flowered
dell,
The flow of light sweeps on through
space
To the dusk enfolding its resting place.*

*We move through dreams of light and
time
With hearts that beat life's sounding
rhyme:
The fields and hills and clouds fade
by:
The shades of the Great Beyond draw
nigh.*

*For life flows out like the streaming wind
And leaves the myth of the world behind,
Passing beyond the bourn of the tomb,
Ever drifting out to the radiant gloom.*

SOME RAMBLING REMARKS ON SOIL SURVEYS

By P. O. Wood, '08

AS noted in the COUNTRYMAN last fall, two soil surveys were made in New York during the summer which were of especial interest to Cornellians, inasmuch as the Department of Soils of the College of Agriculture was closely interested, the work being prosecuted in cooperation with the Bureau of Soils of the United States Department of Agriculture. In this work the College furnished an equal number of the men employed and paid their expenses and also shared equally other expenses incidental to the field work of the survey.

The two areas surveyed were Livingston County in the famous "Genesee Valley" country and Montgomery

County in the middle Mohawk Valley region. The work in Livingston County was in charge of Mr. M. Earl Carr, Syracuse, '03, assisted by Instructor Geo. A. Crabb, for the Bureau of Soils, and Mr. H. O. Tiffany and the writer, for the college. The Montgomery County area was in charge of Mr. Ora Lee, Jr., Cornell, '06, for the Bureau, assisted by Mr. C. Lounsbury, '08, for the college.

Not having been in close touch with the work in Montgomery County, these remarks apply directly only to the Livingston County work.

The field work was begun July 1st and completed November 16th. Livingston County is well suited to show



GENERAL VIEW OF LIVINGSTON COUNTY NEAR DANSVILLE. VOLUSIA HILLS IN THE DISTANCE.



WOODLAND SCENERY, LIVINGSTON COUNTY.

the value and utility of such work, embracing as it does lake, stream, glacial, and residual soil conditions, and offering a wide variety of soil and agricultural conditions. In the progress of the work thirty six soil types were recognized, a number unprecedented in any one area in the history of the Bureau's soil survey work. Conditions of agriculture are as varied as are the soil types, and depend largely on the soil. The prices of farm land within the county, range from the extreme low—as low as \$8 per acre—to the extreme high—\$400 per acre. Agricultural conditions have as wide a range as do the prices of land. Where the low priced lands occur there is a low grade of extensive farming, deserted farm homes, and abandoned fields if not farms, but where the high priced land is found there is a high grade of very intensive farm industry and instead of there being abandoned or semi-abandoned fields, the fields are made to produce from one to three high priced crops annually. However, as a whole Livingston county is noted for its agricultural productivity, farming being

the chief industry followed by the people living there.

It was a decided pleasure to work in such a productive, well developed, prosperous region, despite the local exceptions encountered.

It may be of interest to the readers of the *COUNTRYMAN* to describe the actual operations of a field party in making a soil survey. Most people have a very hazy idea of how this soil survey or soil mapping work is done. Some consider that the essential part consists of examining individual farms and in taking a multitudinous number of samples to be analyzed as the work progresses; others that a transit is used as in civil engineering work, and others never have stopped to think, have no idea whatever of how it is done, or of its value.

In Livingston county the making of a base map was unnecessary for the



WEATHERED "HIGHBANKS" ALONG THE GENESEE RIVER.



THE LEVEL LAND OF NORTHERN LIVINGSTON COUNTY. NOTE THE "HOME-MADE" STONE FENCES.

atlas sheets of the United States Geological Survey covering the county are complete except a small portion of Ossian township, which was completed for the purposes of the soil survey work. These topographic sheets, which were used for a base, show accurately all roads, streams, houses, villages, etc. They also show by means of lines and figures the elevations and contour of every portion of the country. The necessary apparatus where such a map is available consists of copies of these maps, a set of colored pencils with which to represent the various soils found, a soil auger, which is an ordinary two inch auger with a three foot stem, and a note book.

The party drives out from temporary headquarters, usually two men working together. The day's work is started by one man taking his soil auger and going across the fields to another road, boring in and examining the soil brought up with the auger to a depth of three feet. He also observes the general surface conditions, contour, vegetation, etc., in addition, and from these observations determines what the character of the soils is of the region over which he has passed. The man left in the buggy makes numerous other borings and observations along the highway and occasionally takes short trips into the fields and finally stops on another road at a certain designated point where

the man who has taken the cross country trip is to come out. Each man is supposed to cover as much territory as possible and to indicate on the map by means of the colored pencils the different soil types which he has found.

When the man going across the lots reaches the predetermined point he may find the horse tied, and his partner *in absentia*, and his arrival simply alternates the previous performance, he driving around a predetermined route and working along the road and meeting his partner, who has taken his time across the country, at some other point.

At noon time a suitable spot is chosen, or rather an attempt is made to choose a suitable spot, which is no simple operation in the middle of November, and the dinner pails are emptied. If the day's work is properly planned, the noon-time lunching place is the farthest point of the day's work from "home" or rather hotel, so that the afternoon is spent in working back to town.

As the work progresses, and typical areas of the different soil types are encountered separate samples of both soil and subsoil are taken and sent to headquarters for such analyses as are considered necessary and essential to a full understanding of each soil type. Generally a mechanical analysis is all that is deemed necessary. In the prosecution of the Livingston county

work some 60 to 70 samples were collected and forwarded to Washington where various analyses are being made. In this area the College of Agriculture was supplied with duplicate samples of each soil type mapped, for its use. A number of analyses have been made of these soil samples for lime or calcium carbonate, some soils showing none to be present and others containing a high percentage.

In case something peculiar or special is encountered samples are submitted, and in this work the writer and his partner observed and collected some white surface incrustations. An examination of these crusts made in the chemical laboratories of the Bureau of Soils showed them to be almost pure magnesium sulphate, one of the troublesome "alkalies" of the arid regions of the west. This point is of particular moment as our New York people and many of our agricultural workers have never dreamed that alkali conditions ever existed within the state.

Another phase of the field work of the soil survey is the collection and preparation of data and statistics bearing on the agricultural development, the present condition and future possibilities of the region both in the way of improving the crops already grown and the introduction of new crops or the adjustment of the crops to the soils best suited for their production. All this material is incorporated in the report and constitutes what is really a miniature agricultural encyclopedia of the area, dealing with a general description of the area, climate, soils, description of each soil type, irrigation, drainage, markets, transportation facilities, other important industries, and in fact every thing pertaining to the agriculture of the region under consideration.

On first thought, such duties as briefly outlined may appear to constitute what is sometimes called a "soft snap," but actual experience does not bear out this opinion. The

work is extremely interesting to one who cares to study agricultural conditions first hand, and there are many other pleasant features. On the other hand, these unpleasant features are sometimes balanced by some not so enjoyable, such as poor hotels, poor livery accommodations, and the laboriousness of the unending cross country trips with the temperature at 90° in the shade, the equally interminable "office copy" of maps, etc. The algebraic sum of the desirable and undesirable features of the work, so to speak, is, of course, determined by the personality and make up of the individual and the party. Speaking personally and as a graduate with no fear of the Professors, I think the experience gained from field work of this kind is invaluable and should count toward graduation. It cannot be secured from books or lectures.

One of the pleasing features of soil survey work is the feeling that one has been doing something worth while. This side of the subject requires a much larger space than is here available, and those interested are referred to the reports of Prof. Milton Whitney, Chief of the Bureau of Soils and various other publications of the Department of Agriculture.

One may not be able to place a definite pecuniary value on such work as is possible on raising so many bushels of potatoes, but it is the object, and the accomplished object of the soil survey to show just what soil in a given region is best suited to grow potatoes, corn, beans, etc., and thus to increase the number of bushels of these and other crops raised with the same acreage and expenditure for labor.

Judging from what has actually been accomplished by this soil survey work in many ways, and in many places, surely the work done by the Bureau of Soils constitutes a most wise and profitable expenditure of Government funds.

THE EASTERN END

From the Notes of a Farm Surveyor

By B. H. Crocheron, '08

LONG Island is but little understood by most up-state folks. They know more of the Adirondack "wilderness" than of the big island which they think of, first, as a sand bar and, second, as a place where summer boarders, vegetables and Coney Islands flourish.

The Eastern End, as Long Islanders call it, is even less known and, although it comprises the second largest county in the state, little has been written and said about it, comparatively, although it differs as widely from Central New York in its agricultural practices and problems as do Delaware and Eastern Maryland which it greatly resembles.

People there still tell of the enthusiastic institute speaker who devoted much time and energy to their instruction upon the wholesale raising and marketing of hogs—and this to people who till land as closely and carefully as a garden. There is another and more recent incident told of the speaker, from up the state, who feelingly depicted the misfortune of the children imprisoned in their local schools, the disadvantages of which he described at length, using the old-fashioned, one-room, three R type as his text. At the finish he feelingly called upon his hearers to consolidate and modernize their schools. It happened that in the township in which he spoke, not one school of the type which he described existed, they were all up-to-date consolidated schools—but the speaker didn't know it.

This aloofness from the state is of long ago origin. Long Island was settled by two antagonistic races. The Western End around Breuklyn, Flatsbusch, and Coenties was taken up by the Dutch about the same time that the Eastern End was settled by New Englanders from Massachusetts and Connecticut at Southold and Westhampton. The two races had some

fine lively times in the early days as each claimed the land of the other. The popular method of warfare seemed to be to nail on a tree a sign which said that this land belonged to the Colony of New Netherlands. This would be promptly followed up by the other party who pulled down the sign and erected another in its place which said that this land belonged to the Colony of New Haven. These little pleasantries might have merrily gone on for an indefinite time had not the luckless New Havenites been hauled before the Dutch governor who couldn't see the joke. He patched up a truce upon the basis that the land was a part of the Dutch possessions upon which the New Englanders were to be allowed to live unmolested and their titles to land recognized by the Dutch authorities.

It thus came to pass that, though under the rule and part and parcel of New York, the Eastern End of Long Island remained typically New English in its settlers' houses and methods of farming. Today the descendants of the original settlers are, many of them, still on the land and, proud of their long tenure of title, placidly self-satisfied with themselves and their country. They naively asked the "Experiment Station man" if he ever before saw such progressive farmers as themselves; at the same time averring their belief that such do not exist. One farmer even stated that no other place was so beautiful to live upon as Eastern Long Island and added that his farm was the best situated of all those upon it.

Land is usually valued at from two to three hundred dollars per acre and in some sections it is very difficult to buy any except at a price several times in excess of its real value. The people who have held land for two centuries or more in the same family do not intend to part with it now if

they can still make a good living from it. Until recent years land was valued at only a hundred dollars an acre but the demand for summer homes for city men, the high earnings of the land when planted to vegetables, and, perhaps most of all, the influx of Polish settlers anxious to buy farms and willing to pay practically any price, provided it is not demanded in cash; these have forced up the price of land to its present level and will no doubt force it still higher.

The soil, in most places, is sandy. Suffolk County, the Eastern End, is said to use as much commercial fertilizer as all the rest of New York state together. The terminal glacial moraine runs along the northern edge of the island and modifies the soil type widely. Many of the best farms are situated along the line of this great moraine. The centre of the island is, much of it, still covered with scrub oak and of little present value although by sufficient fertilization crops can be grown upon it.

The main business of the Eastern End is to grow vegetables. Potatoes, cauliflowers, Brussel sprouts, cabbage (for seed), asparagus and lima beans are the principal crops; and about in order of importance as they are here given.

The labor problem has been interesting in its development. The first "imported" laborers were Indians and even today an occasional Shinnecock Indian is found working on a farm. But the first real great race movement was when the Irish came in as farm hands. Some of these have stayed as farm owners but most of them are gone and an Irish farmhand is a rarity now. Next came the Germans. A few of these now own farms but most of them are gone. They got drunk every pay-day.

Today the people from Poland are the great source of labor and the great problem on Long Island. They live cheaply and save most of their wages.

In some sections they already own many of the farms but there is no one section yet totally occupied by Poles, the statements of some writers to the contrary notwithstanding. The Poles are poor farmers but good citizens. Their farms are in bad shape; their crops below the average but they get ahead because the whole family, men and women work in the fields from daylight till dark. A philosophic old gentleman looking over his farm which had been in his family for two centuries and a half said that he doubted not but that the Polish people would in a few years own all the land including his farm; and this because they did the three things necessary to acquire and hold land and the present-day Americans did none of them. In reply to my question he said that these three things were: to work hard; to save money; and to raise many children.

The farmers' clubs act as co-operative buying agencies. The town of Riverhead has an Agricultural Society which has flourished for a quarter of a century. It holds weekly meetings open to the public for the discussion of agricultural questions and buys flour, seed potatoes, block salt, kitchen stoves and almost any other staple for the use of its members. It has a special fertilizer of its own for sale at cost price. Last year it sold a hundred thousand dollars worth of commodities to its members through its salaried purchasing agent.

The Eastern End is prosperous in the old settled portions. The houses, barns and farms show it. The people are contented although many are now looking longingly at the money for which they could sell their land and buy more cheaply elsewhere. Without being over enthusiastic, one may quote the farm owner who, squinting across his level land at the blue Peconic Bay and the green hills of Shelter Island beyond it, spat forcibly on the soil and said, "It sure is God's country."

A PLEA FOR SEED LEGISLATION

By K. C. Livermore, '09

A QUESTION of great importance to farmers is being agitated. It has been long recognized and practically solved in most of the European countries; but in our own country, altho the experiment stations have felt its importance, it has not received enough attention to bring about the effective legislation necessary to meet it squarely. I refer to the question of impure, adulterated and misbranded seeds.

The chief evils found to exist in the condition of our seeds may be divided into five classes. The first class includes such impurities as dirt, chaff, small pebbles and similar inert foreign materials. The second includes weed seeds. The third includes the mixture of foreign seeds with the commercial seeds, like the seed of Canada blue grass in a package of Kentucky blue grass seed. The fourth class includes low-germination seeds; seeds that are of the right kind but which will not grow. Misbranding or substituting seeds of one variety for those of another constitutes the fifth class of evils.

You question, perhaps, whether there are enough of these impure, adulterated and misbranded seeds on the market to warrant a discussion of the question at all. Perhaps you are so in the habit of blaming the soil or

You question, perhaps, whether there are enough of these impure, adulterated and misbranded seeds on the market to warrant a discussion of the question at all. Perhaps, you are so in the habit of blaming the soil or the weather for a poor crop, and your neighbor for the weeds which appear in your fields, that you never ask if the seed is just right. There is *plenty* of cause for discussion of this question.

The Vermont Experiment Station collected 735 samples of seeds from all over their state and tested them, finding many that were impure with dirt, chaff and weed seeds, some that were worthless and some which had obviously been adulterated.

The Pennsylvania Station conducted similar investigations, taking samples of seeds from merchants all over their state. The station reported, " * * * we may conclude that there are farm seeds placed on sale that are exceedingly poor and even worthless." They also considered that the worst conditions had not been shown.

Kentucky blue grass seed examined at the North Carolina Experiment Stations contained thirty-five per cent of weed seeds, dirt and chaff. In a test at the Connecticut State Experiment Station seventeen samples of orchard grass seed were examined. One of them contained no orchard grass whatever, but consisted mostly of perennial rye grass, a very inferior species. Five other samples contained on an average of twenty-five per cent of this grass seed, while of the entire lot only forty per cent germinated, the amount germinating in one case being only four and one-half per cent.

The seed of clover is usually much more impure than that of any other crop. Sixty-three samples from different parts of the United States were tested at the Iowa Experiment Station. They showed impurities ranging from three-tenths to sixty-seven per cent that is from three ounces to forty pounds per bushel and averaged nearly three and one half pounds of impurities to the bushel.

This is the condition of our seeds, especially the grass and clover seeds, all over the United States. In New York State the condition is just as bad. One of the students of our college collected samples of grass and clover seeds from all parts of the state and tested them carefully. He used the results of his investigation in a graduation thesis, in which he says, " * * * it is obvious that the adulteration of commercial seeds has been and is yet carried on to a greater or less extent and no sample is entirely free from impurities. * * * We have samples that show adulteration and no sample

but that contains some impurities."

Who, is to blame, we ask, for the presence of all this poor seed? That is hard to say. Every dealer apparently buys his seed of some one else and when his seed is found to be adulterated, he claims it is just as he bought it. This is probably true in the majority of cases. The blame rests right on us as a nation. Why don't we protect ourselves against this robbery? Argentina, Canada, and nearly every country in Europe prohibits the importation and forbids the sale within their borders of low-grade seeds. But, at the same time, they carefully provide for its exportation. Who gets their poor seed, then? We, the farmers of the United States, cry out, "We'll take it, we're easy! We want cheap seed." And we get it. We import the dirt and screenings which can not be sold in other countries. We pay to have dodder, ergot, Canada thistle and many other noxious weeds imported and scattered over our farms. We like to pay for Kentucky blue grass seed and get the seed of Canada blue grass!

May I use a few more figures? In 1904 over 324 tons of Canada blue grass seed were imported from Canada practically all of which was sold as Kentucky blue grass seed and at Kentucky blue grass seed prices. We know that Canada blue grass is inferior to the Kentucky variety and that the seed is cheaper. Well, we paid for it all.

Our own dealers can not compete with this cheap seed, unless they sell the same kind. So they grade their seeds down and we pay for the mixing. Thus, we are to blame, not only for importing great quantities of worthless seed, but worse yet, we are to blame for practically forcing our own dealers to handle the same kind of seed.

Well! we say, this is a pretty bad condition of affairs. How shall we protect ourselves? We can not tell by the looks of seed what its quality is. We have no time to test our seeds, and it is not convenient to send them to the experiment stations to be tested.

Besides, we want to know, at the time of purchasing the seed, just what it is. Why shouldn't we know?

Let us see how other people handled the seed question. The only state which has effective seed laws is Maine, and those laws are successful. Both the farmers and the dealers are benefited by them. They apply to all seeds (with a few exceptions) in packages of a pound or more. They require that upon every such package there shall be a written or printed guarantee of the percentage of purity. The guarantee may be based upon tests conducted by the experiment station or by the dealers themselves, provided that such tests shall be made under such conditions as the Director of the experiment station shall prescribe. Moreover, the station is empowered to sample and test any seeds on the market, and to prosecute dealers whose seeds test below the guaranteed purity. The Maine laws do not compel dealers to handle pure seed; that would be attempting the impracticable. They simply require that the dealer shall say just how pure the seed is and what the impurities are which it contains. Then, the true worth of the seeds is apparent.

There is nothing new or strange to us in these laws. The principle involved is familiar. We remember how only a short time ago, public opinion was aroused over a similar matter. People united, and working with one purpose, brought the pure food law into existence. Today a man may know what he is getting when buying prepared foods and drugs. The same is true in regard to fertilizers. With the analysis printed on the bags and with government inspection to check up the honesty of the manufacturers, a man may know what he is buying. The principle is not only familiar to us but it is workable, workable in the case of seeds as well as of foods and fertilizers.

If then there is need of seed laws and if seed laws have been proved practicable, why don't we have them? We must have them, and I urge the farmers of New York state to unite in demanding *guaranteed seeds*.

PLANS FOR THE DIVISION OF POMOLOGY

THE purchase of the Blair and Mitchell farms by the University for the use of the Agricultural College has enabled the Division of Pomology to widen the scope of its activities in very practical directions. Fifty acres of the Blair farm have been placed at its disposal. Of these, thirty acres are to be set out to orchards immediately and the remaining twenty will be planted as soon as the soil can be got in fit condition.

The work here will be carried on along three different lines. One section will be grown entirely on a commercial basis; only commercial varieties will be set, and all work in fertilizers, cover crops, pruning and spraying will be carried on to prove whether or not the methods employed are worth while, when dollars and cents are considered. This class of work will be of the greatest value to the fruit-growers for it will supply them with accurate knowledge, not only of commercial orchard practices, but also on picking, packing, shipping, and marketing the fruit.

The second section will be set out for experimental purposes. A large number of fruits and varieties will be planted; and experiments in cross-breeding, the application of Mendel's Law, the influence of the scion on the stock and other of the many unanswered questions, will be carried on.

Another section will be used as a nursery for the study of the nursery problems. Whatever affects the nursery, affects the orchard, and when we consider that one of the largest nursery sections of the country, that in the vicinity of Rochester and Geneva, is within a hundred miles of the College, we can see the possibilities that this work opens up. On the Blair place there is now a small orchard of old trees that are in bad shape. This will be used for an object lesson in the problem of renovating old trees.

In addition to this work at home, much more will be done through the state than formerly. On the farms of Judson Knapp near Syracuse, two acres of nineteen-year-old apple trees

have been turned over to the Division for work in orchard management. The orchard has been in alfalfa for fifteen years and has never born a crop. The work will be to bring this into bearing.

For the next year the biggest task will be the running of a seventy-five acre vineyard on a commercial basis. The H. B. Cushman vineyard at Romulus, N. Y., has been leased and the College is going into the grape business in earnest. It was on eight acres of this vineyard that the successful experiments on the control of black-rot were carried on last year. At the same time it is planned to make a grape and small-fruit survey of Chautauqua County. These two will, taken together, be a valuable contribution to our knowledge of grape-growing and marketing.

Orchard surveys have already been made in six counties; Wayne, Orleans, Niagara, Monroe, Ontario and Orange. The results of these are being worked out and tabulated; as soon as they are done, the surveys will be published. A much greater effort will be made to help the fruit growers solve their problems. The orchard surveys have brought the College into close touch with these men and their work, and with these surveys as a basis, circulars will be published and forwarded to them on pruning, cleft graftage, top-working, cover crops, spraying, fertilizing and tilling.

This extension of activities will not be confined entirely to outside instructive work. Commencing next fall, four new courses will be added to the College work. A course will be given in "Manufactured Fruit Products," such as canned and dried fruits, fruit juices, wines, etc. The work that is now given on bush fruits in "Practical Pomology" will be increased and made into a separate course. Another course will deal with the propagation and growing of nuts. One other course will be in Advanced Pomology and will continue the work in Practical Pomology, going more into detail in the various questions brought up in that work.

The Cornell Countryman

E. L. D. SEYMOUR, Editor

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MARCH, 1909

Brace Up!

For once in his four years of student life, and at a time when such was farthest from his mind, the Editor was surprised and pained to witness a distinct and most unworthy failure of Cornell spirit in the student body of the College of Agriculture. That, at the close of the Banquet, the students should have streamed out of the Armory, while still the Evening Song was being sung, leaving a mere handful to carry the beautiful melody, was unprecedented and inexcusable. It has been the pride of each one of us to refer to the loyalty of our College to Cornell traditions, but with that melting away of the occupants of the tables, in the midst of that almost sacred practice, came a disheartening and regrettable lapse in that which we should bend every effort to create—Cornell spirit. Perhaps our recent self-satisfaction in our patriotism and loyalty led at last to that exhibition of—shall we say carelessness?—and to the inevitable fall from pride which should go deep down

into the heart of every member of the College. Now, at least, in wiping out this mistake, have we good reason to try to show, in the future, how truly Cornellian the College of Agriculture can be.

* * *

An Important Presidential Message

The special message sent by President Roosevelt to Congress on February ninth, embodying the report of the Commission on Country Life, is of vital, if perhaps indirect, importance to the farmers of the country and should be read carefully by everyone of them. Being necessarily brief, it but touches upon the contents of the more voluminous report, yet it offers many ideas that should be carefully considered. Fundamentally we see that the question of improving country conditions hinges, as do so many other civilizing movements, on cooperation—the working together of the government and the individual farmers. Furthermore, we see that the work that has yet to be done, the improvement yet to be effected to make farming what the President believes it will become, “one of the most dignified, desirable and sought after ways of earning a living”—is distinct from the advance that has already been made, the work that has resulted in the astounding figures of the value of the 1908 crops. For several years the national Government has been developing its policy of assisting farmers to produce more, by carrying on experiments that they cannot, by collecting, interpreting and distributing information, and by exerting its powerful and widespread influence in controlling and preventing losses from disease, insect pests, illegal transactions, etc. The farmer has responded; he has

read the bulletins, he has accepted suggestions and acted upon them, and has farmed, not it the narrow, hard way of his ancestors, but with the introduction of the science of today into his business. That is, it has been done to some extent, by the successful farmers, and the result is seen in the increase from year to year in the total crop value of the land. Even so, there is still greater progress possible, in a further awakening and the greater application of science and intellect to the "tilling of the soil."

* * *

Rural Social Life The social conditions towards which the appointment and efforts of the Commission were directed, must be attacked?—no—improved, strengthened, beautified in the same general manner. The state and the nation can offer essential assistance and administration, but the responsibility of the farmer himself is no less marked, his duty no less clear, than in the improvement of the fertility of the land. The Government can legislate, can advise, can urge and can prove the necessity for certain policies, until doomsday, yet without the action of the men and women towards whom its attention is turned, its efforts are as naught, and improvement is impossible. Social betterment means, just as it results in, increased self-respect, appreciation of true living, broadmindedness and progress, sane, sanitary and patriotic.

* * *

Agencies of Civilization President Roosevelt mentions several such factors, towards which we must at once turn our minds and direct our efforts. Better education, a new kind of rural school, is one, and here, we can say is

work already being done. Witness the extension work of the Universities, the introduction of agriculture into elementary schools, the cry for better teachers and the growth of the natural laboratory method of instruction. Time and perseverance in this direction, must result in schools that are typically, essentially of and for the country. Secondly, must there be cooperation by township, county, state and even interstate organizations. Does not the ignominious failure of this chief apple-raising state of the east, to exhibit at the National Apple Show at Spokane, point out the crying need for cooperation of fruit growers? Does not the example set by city industries, actually prove the need of unifying, cooperative methods in agriculture? Here then, must the individual farmer think forward a little, put aside any personal prejudice or desire for selfish advancement, and in combining with others for the general good, will he find success far above all that he may have coveted. Finally President Roosevelt calls for better means of communication and we echo his call, urging every man to do his part. The parcels post, an extended development of the mail service, better roads, lengthened telephone and telegraph systems, all such provisions are the stepping stones to a better country to live in, to work in and to enjoy. Many such questions are before the legislature, or will come before it, and at this stage can each citizen add his weight by calling for the passage of the desired measures. There are many, and there is no space to present them here, but the conservation of the forest and stream resources are among the dominant, the vital problems. Let it be not only our aim, but our work to accomplish

these things, and for a better understanding of our way, the COUNTRYMAN again urges an earnest study of the President's recent message.

* * *

Refreshments at the Assemblies

We were glad to note the re-introduction at the February Assembly of the time-honored refreshments. This is not, let us assure our readers, from any gormandizing tendency, but because, as we see it, some such provision is a valuable attraction to our monthly gatherings. As aptly expressed by one of our faculty, and one who in former times has had to do with the providing, it "breaks the ice" and moreover it is easier to talk and sing with one's throat refreshed even by one small glass of cider or grape juice. We appreciate the obstacles encountered in setting even a moderate repast before our gradually increasing numbers, but the game is worth the candle and we wish it well.

* * *

Mistaken Identity

The COUNTRYMAN has been called to account by the Girls Club of the College of Agriculture

for an error in reporting the Fruit Show of last November, wherein a certain exhibit of culinary products was credited to the "young ladies of the Home Economics department." Lest others are uncertain as to the connection between the two organizations and might suffer the penalties enforced by ignorance, we would state with new-found knowledge the correct relationship existing within our collegiate boundaries. The members of the Girls' Club are *bona fide* and registered students of the College of Agriculture and to them are we indebted for the feminine influences that form no small part of many of our college activities. They form a distinct minority of the Home Economics classes however, the latter being largely composed of Arts students, students whom, in their search for knowledge of a subject closely allied to our vocation of producing food for the nations, we welcome as colleagues. We trust that we have grasped the correct relationship and that we have expressed our appreciation of both the actual and the reputed providers of the aforementioned culinary exhibit.

GENERAL AGRICULTURAL NEWS

A NEW school of agriculture has been established at Morrisville, Madison County, this state. At the last session of the legislature, provision was made for this school and the county has now given to the state the buildings which were formally used for county purposes. A conservative estimate places the value of these buildings at \$150,000. These buildings consist of a large frame building used as a courthouse, a brick structure which served as the Sheriff's residence and jail together with the County

Clerk's office. The two frame buildings were erected about forty years ago but the Clerk's office is a modern fire proof structure erected only six years ago and cost \$40,000. Morrisville is located in a section of the state where there is every opportunity to study all lines of farm industry. Located about the school are many varieties of soil which make possible the carrying on of many branches of agriculture in that locality. It is also possible to study specialized farming, for Madison County has long been

noted for its crops of celery, onions, alfalfa and hops. There are also several abandoned farms in a short distance of this school. Thus it is seen that this section furnishes almost all types of farming and farm conditions that can be desired.

Governor Hughes has appointed the following trustees for this school. Dean L. H. Bailey and Commissioner Pearson by virtue of their positions and the law establishing the school; John H. Broad, of Morrisville; John T. Roberts of Syracuse; Fitch Gilbert of Otsego County, and John A. Stewart of New York City. The first meeting of the trustees was held at Morrisville recently and the following officers elected: President, Mr. Roberts; secretary, Mr. Broad; treasurer, Mr. Fitch. The members of the board expressed great satisfaction with the property and it is hoped to have the school ready for students next fall. The founding of this school has already stirred up enthusiasm in this locality and the grange which surrendered its charter twenty years ago has reorganized, and throughout a new interest in farming is evident.

* * *

The Crop Reporting Board of the Bureau of Statistics of the United States Department of Agriculture gives some interesting statistics on the number and value of farm animals on the farms and ranges in the United States on January 1st, 1909. The total value of all farm animals was \$4,525,259,000 as compared with \$4,331,230,000 on January 1, 1908. This is an increase of \$194,029,000 or 4.5 %. In average value per head, horses increased \$2.23; mules increased \$0.80; milch cows increased \$1.69; other cattle increased \$0.60; sheep decreased \$0.45; swine increased \$0.50.

* * *

The attendance at the Farmers' Institutes this winter is larger than ever before, which shows that the farmers are taking greater interest in this work. This improvement is due to three factors; first, the institutes are being conducted along more in-

structive and practical lines than formally, so that they better meet the requirements of the farmers. In the second place, the farmers are finding far greater benefit in them than in previous years for they are now more alert to take advantage of every opportunity offered them to conduct their work along successful and remunerative lines. And thirdly, the farmers feel that besides the pecuniary returns, any interest in this work will result in better living and more attractive farm life.

* * *

The Holstein-Friesian Association of America announces through its secretary, F. L. Houghton, Brattleboro, Vt., a list of special prizes to be offered at the various state fairs and expositions of 1909. Most of the money prizes are for exhibition of pure bred registered Holsteins in the various classes. The money prizes amount to \$2050 while the value of the silver cups offered will aggregate \$850. In most cases the cups are for the largest and best show of cattle though several cups will go to winners of the first prize in the butter test. This is certainly a liberal list of prizes and should invite the interest and competition of Holstein breeders throughout the country.

* * *

Early in February, an important conference was held in the State Department of Agriculture and the milk situation thoroughly gone over. The meeting was the result of a recommendation which Governor Hughes made in his annual message to the Legislature. This recommendation called for a plan whereby clean and healthy milk should be produced under proper safeguards to producer and consumer alike. Those present at the meeting included Commissioner Pearson, James W. Wadsworth, Speaker of the Assembly; Senator F. C. Platt, Assemblyman C. Frederick Boshart, chairman of the Committee on Agriculture; F. N. Godfrey, master of the state Grange; Dr. W. H. Jordan, director of the state experiment station; Dr. E. J. Lederle, formerly

Commissioner of Health of New York City; Dean H. E. Cook, of the St. Lawrence School of Agriculture; D. C. Markham, of Port Leyden; Loton Horton, president of the Sheffield Farm Dairy Company, and George W. Sisson, president of the state Breeders' Association.

The different phases of the milk business which have caused dissatisfaction were considered and it was decided to carry on an investigation which would determine the cost of production and handling the milk from the time it leaves the producer until it reaches the consumer. This inspection will be in charge of Commissioner Pearson and will continue throughout the entire year so that the fluctuations of supply and demand can be studied. The matter of milk inspection in cities and towns not already having an inspection system of their own was taken up and it was the opinion of those present that the unsanitary dairies should be excluded in order that those who were honestly striving to put out a good product might be encouraged.

* * *

The committee in charge of collegiate athletics at the Alaska-Yukon-Pacific Exposition to be held in Seattle, June 1st to October 16th, announce a large number of contests covering every branch of athletic sports. There will be a national meet open only to college men, early in the summer at a time most convenient for a majority of the competitors. Individual medals and team cups are offered for standard track and field events, relay races and cross-country runs. Besides these there will be a series of baseball, basketball, tennis matches, besides boxing, wrestling, and other special features. Relay races will be arranged between teams representing the Atlantic states, the Middle states, the Rocky Mountain states, the Pacific Coast, Canada and the western Indians. The committee in charge is anxious to hear from all college athletes who may possibly enter the meets. Correspondence should be addressed to Dean Milnor Roberts, University of Washington, Seattle, Washington.

CAMPUS NOTES

Smith Prize in Farm Management

PROFESSOR Clinton D. Smith, Escola Agricola "Luiz De Queiroz" has offered a prize of \$50 for the best plan for the organization and management of the Smith farm at Trumansburg.

Competition is open to any student in the University and will close June 15, 1909. All plans are to be submitted to Professor Warren before that date. The award will be made by a committee of three appointed by Director L. H. Bailey. All plans and specifications will become the property of the committee.

The plan should present a complete reorganization of the farm, including arrangement of the fields, necessary fencing and drainage, location of new buildings, disposition of old buildings, location of orchards, kinds of trees to set and planting plans. Areas of crops to grow, rotation to follow, kind and amount of stock to keep. Estimates of expenses and receipts should be included. The plan should run for three to five years or until the reorganization is fairly complete. The first two years the development is to be in charge of a hired manager.

* * *

Early in February, Professor C. A. Publow stated that positions had been secured for thirty-three of the present Winter Dairy class. These positions are in factories, creameries, and as dairy farm managers with pay ranging from forty-five to one hundred dollars a month.

* * *

L. R. Waldron, Director of the Sub-experiment Station of North Dakota, recently registered for graduate work in the Plant Breeding department.

* * *

M. J. Dorsey, Assistant Horticulturist at the Geneva Experiment Station, is again at the College taking work in the Plant Breeding and the Plant Physiology departments.

* * *

"The Grapes of New York," which was gotten out by the Geneva Experiment Station has just come from the

press. Professor Hedrick and Wm. Alderman, '08, have started "The Plums of New York" on which they will devote their entire time until it is finished, after which Professor Hedrick will go abroad for some time.

* * *

Professor C. S. Wilson, accompanied by about sixty students, attended the two days session of "The Western New York Horticultural Society." Various plans and phases of orchard management were discussed. Many excellent papers were read on peaches and grapes, also on tillage, fertilizers, and spraying.

* * *

Professor Fippin went to Rochester, February 22d to confer with Chase Brothers in regard to tile draining their farm at Honeoye Falls. They expect to purchase a traction ditcher similar to the one used experimentally on the University Farms.

* * *

Mr. G. A. Crabb of the Soils Department recently spoke before the Grange at Ovid, N. Y., on "The Use of Lime,"

* * *

Dr. A. D. MacGillivray reports a registration of nearly one hundred and fifty in General Entomology No. 3. This year's class is much larger than any previous one.

* * *

At a meeting of the Winter Poultry course, the permanent officers for the year were elected. They are: President, R. C. Rudy; vice-president, R. D. Smith; secretary, Miss M. Fetter; treasurer, Miss O. B. Sane. Committees were appointed to take charge of the entertainments, athletics, class-pins, picture, etc. It was arranged that meetings were to be held every Tuesday evening at eight o'clock.

* * *

Professor B. M. Duggar of the Department of Plant Physiology lectured on January 30th, before the Massachusetts Horticultural Society on "The Relation of Conditions of Growth to Susceptibility to Fungous Diseases."

February fifth, the Winter Home Economics class combined with the Winter Horticulture class in holding a banquet. An excellent supper, followed by stories from H. Findlay and a solo by Mr. Moore of the Horticultural Department were greatly enjoyed by the thirty-five present.

* * *

Monday evening, February eighth, the Lazy Club meeting was held in the Auditorium with the Craig Club in charge. The Craig Club orchestra furnished excellent music.

* * *

The first of the Winter Course inter-class debates was held February fourth. The Horticultural team was defeated by the Poultry team composed of J. P. Landry, L. M. Hurd and Lane.

* * *

In the recent competition for the Second Agricultural Stage, the following students were chosen: Miss E. F. Genung, Sp., K. C. Livermore, '09, G. P. Scoville, '10, R. J. Shepard, '10, F. N. Darling, '10, P. H. Elwood, '10.

* * *

The Stone Club, which is composed of all the Winter Course students in General Agriculture, was organized during the first week of the course, but the officers were not elected until later. The name selected by the class of '08 seeming most desirable, was appropriated; for it seemed to be the sense of the Club that it believed no one person had done more for the course, or has its interests more at heart than Professor Stone, and so they wished to prolong, if not make permanent, the name, Stone Club.

The officers elected are: President, R. P. McPherson, LeRoy, N. Y.; vice-president, Perley Rider, Ansonia, Conn.; secretary, F. E. Rogers, S. Kortright, N. Y.; treasurer, H. Sawyer, Centerville, N. Y. The Stone Club is holding most interesting and well attended meetings. Debates among its members, or addresses by some member of the faculty usually following the evening's business, regular meetings being held every Wed-

nesday night. These debates create a great deal of enthusiasm.

"Agricultural Methods as Pursued in England" was the subject of a talk by Professor Stone at a recent meeting. Prof. Stone was well qualified to make this a most interesting as well as instructive lecture as he was in England part of the summer.

* * *

Perhaps the most interesting meeting and, in some ways, the most practical one held, was the meeting of February tenth. Miss Van Rensselaer spoke on "The Modern Conveniences of a Modern Home." She demonstrated that much may be done to lighten the burdens of the housekeeper and make the home more ideal. Miss Rose followed with a short talk. She urged that more music be had in the home, that one should read more good literature, not along agricultural lines alone, but also upon current topics.

Mr. Curtis, of the Farmers' Institute staff, then spoke a few words on "The Soil Problems and How to Solve Them." The Club then listened to Mr. Merrial, of the Educational Department at Albany, tell of the conditions in the district school.

* * *

As we go to press, the Agricultural College basketball team leads all the other colleges in the intercollegiate series. The team has played four games and won them all. The scores follow: M. E., 25, Ag., 26; Law, 13, Ag., 26; Arch., (forfeited by Arch.); Arts, 12, Ag., 37. There are still two games to be played, viz.: C. E. and Vet. The game between Ag. and C. E. should be pretty close if each team continues to put up the kind of game it has in the past.

If Agriculture succeeds in winning both these games, it will hold the intercollegiate basketball trophy for the

next year. The cup is at present in the possession of the Law College.

The line-up of the team follows:

J. Retick.....	Right forward
W. G. Stephenson.....	Left forward
J. H. Rutherford, (capt.)....	Center
J. C. Laue, (manager)...	Right guard
L. S. Ward.....	Left guard
H. C. Young.....	Sub forward
S. G. Rubinow.....	Sub guard

* * *

The Student's Extension Committee held its first meeting after the Christmas vacation at Brookton on Jan. 14. Dr. J. P. White gave a talk on "Alfalfa;" F. S. Jacoby spoke on "Profitable Poultry Raising;" and E. H. Thompson gave a brief discussion of the "The Breeding of the Dairy Cow." The Glee Club quartette rendered several selections; the meeting was led by V. J. Frost. Attendance, 150.

The next meeting was held at Dryden on the evening of Feb. 5. The program consisted of the following talks: "Soil Fertility," by Mr. Crabb; "The Improvement of the Dairy Herd," by Mr. Van Auker; "Seed Selection," by K. C. Livermore, '09. The mandolin quartette gave several selections. E. H. Thompson, '09, presided, about 300 were present and everyone was interested.

On the evening of Feb. 12, the largest gathering of the year was held at Newfield. The Farmers' Institute had just been held there, but the attendance at this meeting exceeded any attendance of the Institute, a fact which was very gratifying to those in charge. At this meeting, J. H. Phillips, Sp. Ag., spoke on "Tile Drainage," D. W. Hallock spoke on "The Value of the Government Soils Survey," and G. P. Scoville read a selection. The Glee Club quartette sang several songs. J. H. Phillips led the meeting; about 350 were present.

FORMER STUDENTS



Y. H. TONG.

'07, B.S.A., '08, M.S.A.—Yau Hang Tong was born in Canton, China, in 1884. He graduated from the Provincial School (Chinese) and received his English education at Queen's College, Hong Kong. In 1904, he was sent to the United States by the Chinese Government to study Agriculture. He entered Cornell in 1904 and specialized in Agronomy, receiving his B.S.A. degree in June, 1907.

Mr. Tong then registered for a Master's degree, taking rice as the subject for his thesis. He spent much of the time, while working for his M.S.A. in the South investigating methods of growing rice and of rice irrigation. His thesis on rice culture excited much very favorable comment among agricultural circles and he was requested by the U. S. Department of Agriculture to remain here and do special investigation work on rice. This offer he declined. He received his M.S.A. degree in June, 1908. Mr. Tong was also a member of Sigma Xi.

After receiving his degree he went back to China and has been appointed Director and President of the Canton Provincial College of Agriculture and Agricultural Experiment Stations. The central station is at Canton and there are two branch stations. The

college will not be opened till this spring.

Director Tong writes that, "Our organization is completely modelled after that of Cornell. I sincerely expect that in a few years, after we are fully developed, people will come to tell me that this establishment is a real daughter of Cornell."

Director Tong has recently sent \$3,000 to the University Treasurer, which is to be expended by Professors Warren, Fippin and Cavanaugh in the purchase of books, apparatus and seeds that are not available in China, for his University.

'89, B.S.A.—H. W. Smith is superintendent of Borden's Condensed Milk Company at Genoa Junction, Wisconsin.—*Cornell Alumni News*.

'89, Fellow.—W. A. Withers who held a Fellowship in Agricultural Chemistry, '89-90, was elected vice-president of the Association of Official Agricultural Chemists of North America at the annual meeting of the association at Washington, D. C., in November, 1908.

'99, B.S.A.—H. W. Jeffers is manager of the Walker-Gordon Laboratory Company of New York City. His address is Plainsboro, N. J.—*Cornell Alumni News*.

'00, Sp.—S. W. Clarke is managing his father's farm, Chenunda Creek Farm, at Independence, N. Y. Besides practicing general agriculture, he is raising high grade Holstein cattle, O. I. C. swine and Percheron horses. Mr. Clarke writes, "Farming is a pleasant, paying and healthful occupation and I am well pleased with it."

'01, B.S.A.—D. L. Van Dine visited the college in the early part of February. Mr. Van Dine, who since his graduation has been Entomologist of the State Experiment Station of Hawaii, has recently been transferred to the Bureau of Entomology at Washington.

'01, B.S.A., '05, M.S.A.—R. W. Curtis now engaged with The Park Department of Boston, writes cheerfully. Is engaged, and expects to return to Cornell in a year or two to get his Ph.D. Is enthusiastic about his op-

portunity under Dr. Sargent and in the Arnold Arboretum. Curtis will be remembered as the motive power in student activities while doing graduate work here.

'04, B.S.A.—Archibald Stone, who is well known among the Holstein breeders of this state, has accepted a position as manager of a large estate and stock farm, Willowmoor, at Redmond, Washington. Mr. Stone has already gone west to take up his new work.

'04, B.S.A.—H. E. Kinne is secretary of the Syracuse Breeder's Association. His address is 414 Dillaye Building, Syracuse, N. Y.—*Cornell Alumni News*.

'06, Sp.—Ernest Kelley is located with the Newark Milk and Cream Company, Newark, N. J. Mr. Kelley does all the laboratory work for this Company and in addition has the supervision of the milk room where about 10,000 quarts of milk are handled and pasteurized daily. His address is, Y. M. C. A. Building, Newark, New Jersey.

'06, B.S.A.—A. S. Coelho after graduating took a trip to Europe, and, on returning to Brazil, accepted a position to which he was appointed by the Governor of the State of Santo Paulo. He is now superintendent of a large coffee plantation. He was married on January 16, 1908, to Miss Lenor Tibirica, daughter of Dr. Jorge Tibirica.—*Cornell Alumni News*.

'06, B.S.A.—C. W. Mann has been with the Bureau of Soils since graduation and has made soil surveys in New York, Virginia, Mississippi, South Dakota, Idaho and California. He has been in California for nearly a year in survey and soil utilization work. In South Dakota and Idaho his work kept him in close touch with irrigation construction work.

'06, B.S.A.—R. R. Slocum is assistant in the Poultry Division, Bureau of Animal Industry, at Washington, D. C. His address is 1202Q Street, N. W. Washington, D. C.—*Cornell Alumni News*.

'07, M.S.A.—H. L. Dutt, one of the first students sent from India to Cor-

nell, who returned to his native land in the summer of 1907 is now in charge of an experiment station at Shibpur, Bengal.

'07, Sp.—W. W. Basset was married, January 26th, 1909, to Miss Lula Puleston at the home of the bride's parents, Mr. and Mrs. Thomas Puleston of Monticello, Florida. Mr. and Mrs. Basset will make their home at Monticello.

'07, B.S.A.—G. D. Cooper is with Brown Brothers Company, nurserymen, at Browns Nurseries, Ontario, Canada.—*Cornell Alumni News*.

'08, B.S.A.—W. H. Wicks has become assistant in Horticulture at the New Hampshire Experiment Station of the United States Department of Agriculture.

'08, B.S.A.—M. C. Burrit has been confined in the Infirmary with an attack of pneumonia. At last writing he was much improved but expected to remain in the Infirmary about a week longer. Mr. Burrit's illness prevented him from going to Washington to take up his new position.

'08, B.S.A.—Friends of H. F. Major will be glad to learn as we were to note that he contributed an interesting and practical article on "Making Money by Landscape Gardening" to the February *Illinois Agriculturist*. It deals chiefly, however, with the benefits and profits that may be derived from tree planting, both along country roads, on lawns and on waste land of the farm. Mr. Major is now assistant in Landscape Gardening at the University of Illinois, and the following story which appeared in the *Agriculturist* for February will probably be appreciated by many of our readers.

"Pete," the University Policeman, to Mr. Major, the new young looking instructor in landscape gardening whom he found on the campus: "Well, young feller, is picking leaves off the trees all you got to do?"

'08, W. A.—J. C. White has a large farm at Sagaponack, N. Y., where he is growing potatoes on an extensive scale. In addition to potato culture he conducts a small dairy.



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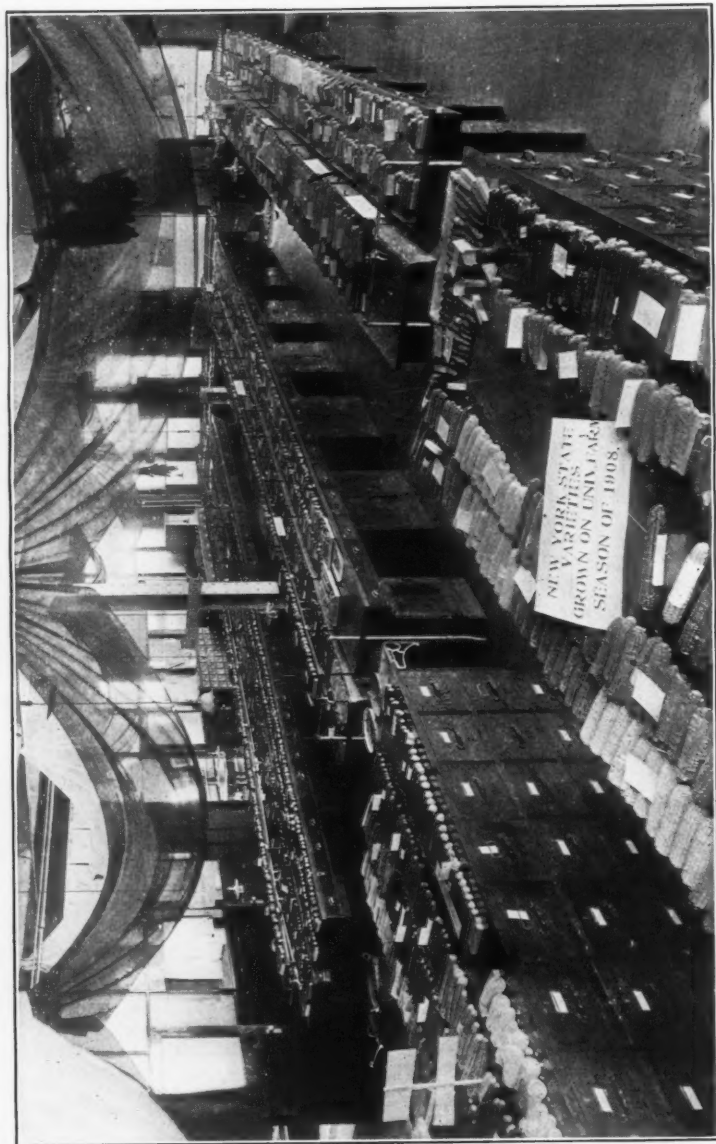
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